Upgrade Internet and Intranet, and Implement New Network Technology **FY2002 Request: $539,900**
Reference No: 33852

AP/AL: Appropriation
Project Type: Information Systems
Category: Public Support Technology/Service
Location: Statewide
Contact: Dan Spencer
Election District: Statewide
Contact Phone: (907)465-5655
Estimated Project Dates: 07/01/2001 - 06/30/2006

Brief Summary and Statement of Need:
This project will combine circuits for voice and data traffic by making use of Voice over Internet Protocol (VoIP) technology. This will significantly increase the effeciency of the state's voice and data transmission systems.

Funding:

	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	Total
Info Svc	$539,900						$539,900
Total:	$539,900	$0	$0	$0	$0	$0	$539,900

☐ State Match Required ☐ One-Time Project ☒ Phased Project ☐ On-Going Project
0% = Minimum State Match % Required ☐ Amendment ☐ Mental Health Bill

Operating & Maintenance Costs:

	Amount	Staff
Total Operating Impact:	0	0
One-Time Startup Costs:	0	
Additional Estimated Annual O&M:	57,600	0

Prior Funding History / Additional Information:
This project has received no prior year funding.

The ultimate purpose of this project is to provide a high level of internet service to and provide a cost efficient infrastructure for the State's business and growing E-business environment. This project will support the statewide desire to increase the use of Internet/Intranet technology over the SOA/WAN. It will eliminate the use of separate circuit connections for voice traffic and data by using VoIP technology. It will support the use of wireless SOA/WAN connectivity in locations that are having difficulty supporting hard wire connections due to various complications. And, it will bring about efficiencies in the management of ITG's services to other state agencies and will allow other state agencies to realize similar efficiencies on their own.

This project has the potential to save funds currently spent to maintain separate circuit connections in one facility for both voice and data. Multiple circuits (1.544 Meg each) will be replaced with one T-3 (45.5 Meg) circuit to the ISP in Anchorage and a T-3 circuit between Juneau and Anchorage. The cost of eight T-1's approximates the cost of one T-3, yet the T-3 has almost four times the capacity. With the advent of new applications and average bandwidth consumption increasing approximately 40% per year, this increased capacity is a necessity.

It is important to note that the Telecommunication's RFP released in August of this year includes the enhancements covered in this request. If ITG is successful in finding a vendor through the RFP process, and if this request is approved, the authority to proceed with these enhancements will become part of the resulting contract with the winning vendor. If the RFP process does not result in a contract for these services, ITG will proceed with implementing the enhancements in-house.

Equipment to be Purchased

Below is a representative example of a typical VoIP installation configuration for one site. This project request is for 20 sites.

MOD#	DESCRIPTION	List	Unit	Quantity	Extended
CISCO2611	Dual Ethernet Modular router w/IP IOS Software	$2,495.00	2	$4,990.00	
CAB-AC	AC Power Cord	$0.00	2	$0.00	
SCCP-12.0.7T	Cisco 2600 Series IP IOS PL	$700.00	2	$1,400.00	
NM-HDV-1T1-24E	Single Port 24 Enhanced Channel T1 Voice/Fax Network Mod	$11,000.00	2	$22,000.00	
WIC-1T	1-Port Serial WAN Interface Card	$400.00	2	$800.00	
CAB-232MT	RS-232 Cable, DTE, Male, 10 Feet	$100.00	2	$200.00	
	Contract Discount -34.8%				($10,227.72)
	Total Equipment Investment per site				$19,162.28
	20 sites				
	Grand Total equipment				$383,246.00
	Installation, including travel costs		20,720		
			TOTAL Project		**$403,966.00**

The following is a representative example of a typical wireless installation configured for one site. This project request is for 10 sites.

Mod #	Description	Unit cost	Quantity	Extended
AIR-BR342	340 Series 11Mbps DSSS Br., 100mW Output w/128-bit WEP	$1,949.00	5	$9,745.00
AIR-ANT4121	12 dBi Omnidirectional Mast Mount Antenna	$695.00	1	$695.00
AIR-ANT3338	21 dBi Solid Dish Antenna	$1,069.00	4	$4,276.00
AIR-420-003346-020	20 ft. (6m) low-loss antenna cable	$89.00	5	$445.00
AIR-ACC3354	Lightning Arrestor	$209.00	5	$1,045.00

AIR-ISA349/10 340 Series 11Mbps DSSS ISA Adapter; 10 pack	$3,049.00	1	$3,049.00
Contractual cost reduction (34.8%)			($6701.00)
Total Equipment Investment per site			$12,554.00
Grand total equipment			$125,540.00
Installation, including travel costs			$10,360.00
Total Project			**$135,900.00**

Improved Public Service
ITG will be better able to support and manage both the data and voice traffic over one connection serving state agencies using the Wide Area Network (WAN). Voice traffic will have priority over data traffic on any of the links using VoIP technology. And, ITG will be better able to support remote sites experiencing lengthy telecommunications outages by implementing wireless technology to bypass existing hard wire connections, creating more "up time" and better serving the citizens of Alaska in and or from remote sites.

One other issue of paramount importance is the enhancement to overall Network security by presenting one point of access to the Internet. This will provide Intrusion Detection (IDS) from one point, thus simplifying problem resolution in the event of Denial of Service (DoS), hacker attacks and restoration of service with minimal delay.

Improvements for State Agencies
Cost savings will be result once this technology is implemented across the SOA/WAN/Internet. All of the State's traffic traverses the SOA WAN "backbone". Agencies (users) will have a much higher throughput and performance. Users will also be able to deploy newer applications such as multicasting, streaming video (Gavel to Gavel, posting of public information on SOA web sites, etc.). ITG will be able to provide a higher level of security to the entire State. Also, agencies will no longer have to install and maintain both data and voice circuits/lines into each office area as one line will be capable of providing both types of services.

Future Year Cost Implications
On-going annual charges for increased bandwidth are estimated to be $610,474 in FY2002 and $852,352 per year thereafter.

Maintenance on hardware for the first year is included in the cost of the hardware, estimated maintenance thereafter is estimated at $15,000 per year for all 30 sites.

Consequences of Not Funding
ITG will not be able to take advantage of the scale of efficiencies to provide the improved service levels demanded by the State's Employees, Legislature and the Alaska public resulting in substandard performance. Furthermore, ITG will not be in a position to operate and manage the State's WAN in an efficient and effective manner. Remote areas will continue to experience outages due to weather or circumstances beyond their control.